ABSTRACT OF THE DISCLOSURE

In a highly available storage system, an enclosure includes first and second power supplies, and first and second controller boards. Each of the first and second controller boards includes first and second serial bus controllers. First and second serial buses are coupled to both of the first and second serial bus controllers on each of the first and second controller boards. The first serial bus is coupled to the first power supply, while the second serial bus coupled to the second power supply. The first and second serial buses are used for exchanging enclosure management and environmental information between the first and second power supplies and the first and second controller boards. The first and second serial buses are coupled to isolation switches so that redundant modules can operate if a serial bus controller fails.